Follow Up Comments on Forensic Environmental Services, Inc. (FES) Letter Response to EPA Review Comments on the Supplemental Source Control Evaluation Workplan for the Former Bird Facility Dated October 9, 2015

Submitted October 15, 2015

Following are the United States Environmental Protection Agency's (EPA) follow up comments on Forensic Environmental Services, Inc. October 9, 2015 letter response to EPA's review comments (dated September 21, 2015) on the Supplemental Source Control Evaluation Work Plan, Former Bird Facility, Portland, Oregon. The Former Bird Facility site is located at 6350 NW Front Ave, Portland, Oregon and listed in Oregon Department of Environmental Quality's (DEQ) cleanup program as ESCI #117. The site is located at approximately river mile 7.5 west (RM 7.5W).

1. A clear, consistent presentation of water levels is needed to best plan the well installations. A depiction (cross section) and narrative describing the groundwater elevations in the western area of the site and the eastern fill area is needed and should be provided in the revised Supplemental SCE Workplan and future SCE documents. FES's explanation for the apparent large decrease in hydraulic head between wells MW-11 and MW-23 is stated as "the current conceptual site model indicates the decrease in hydraulic head from MW-11 to MW-23 is likely a result of moving across the original riverbank from native materials into more transmissive fill deposits." This explanation is not consistent with geologic cross sections (Figures 7-14 and 7-15) and boring logs presented in the June 1, 2012 SCE Report. The cross sections indicate the following information that is contrary to FES's explanation for the large head difference between MW-11 and MW-23:
    - MW-11 is located riverward of the apparent original riverbank and is partially screened across the more transmissive fill unit that is described above.
    - Fill area wells MW-18 and MW-23 are not screened in the more transmissive fill unit. They are screened in the alluvium underlying the fill.

    A refined evaluation of the change in head between wells in the western area of the site and the eastern fill area is needed and should be provided in the revised Supplemental SCE Workplan and future SCE documents. Uncertainties in the hydrogeologic interpretation include: contouring of groundwater elevation data from wells screened in different units (i.e., fill unit, shallow alluvium, and deeper sand unit as shown on cross section in Figure 7-14); vertical gradients and wells screened at lower elevations; and timing of groundwater elevations relative to tidal cycle.

2. EPA understands that groundwater levels will be measured at the existing wells using pressure transducers during the pore water investigation to evaluate tidal fluctuation effects to groundwater level. The pressure transducer activity for collecting water level data should include observations at MW-13. Water levels at MW-13 are a data gap, have sporadic measurements, and mapped values (Work Plan Figure 5) that might not be accurate. The newly obtained data might be helpful to refine the conceptual site model and groundwater contours discussed in comment #1. Water levels should continue to be monitored at MW-13 during the wet season, when the potential for groundwater or perched water is highest, to address data

gaps related to perched water – shallow groundwater interaction. EPA recommends that water level data, together with existing groundwater level measurements be used to estimate the groundwater fluctuation range. Well screen lengths should be selected based on the range of fluctuation. Proper well installation and screen placement are critical to achieve the objective for sampling groundwater and correlating to pore water (transition zone water), which requires that the upper portion of that groundwater zone is screened and sampled.

3. The SAP should be revised to clearly state the updated objectives for new wells. In FES's response to comment letter, the stated objective of the proposed wells MW-26, MW-27, and MW-28 are intended to investigate: "1) if the COIs detected at MW-22 are impacting Saltzman Creek; 2) if fill materials on the Bird property between MW-22 and Saltzman Creek are a contributing source of COIs; and 3) if groundwater flow is converging on Saltzman Creek from the northeast and the southeast" are different than the objectives in the Supplemental SCE Workplan. These objectives should be updated in the document so the purpose and placement of wells MW-26, MW-27, and MW-28 are clear.